



April 04, 2022

California Air Resources Board  
1001 I Street  
Sacramento, California 95814

**RE: 2022 Scoping Plan Update: Initial Modeling Results Workshop on March 15, 2022**

Charm Industrial (Charm) appreciates the opportunity to submit comments to the California Air Resources Board (CARB) in response to the 2022 Scoping Plan Update: Initial Modeling Results Workshop on March 15, 2022. Charm is a California based company working in support of state efforts to rapidly drive down greenhouse gas emissions (GHGs) on the path to carbon neutrality. Our innovative negative emissions technology can play a key role in these efforts. We look forward to continuing to work with CARB and its state agency partners to deliver innovative climate solutions that will provide benefits in California and beyond.

**About Our Technology**

Charm has developed a proven technology that has already removed thousands of tons of carbon from the atmosphere. Our innovative approach converts waste biomass into carbon rich liquid that is safely and permanently stored underground. Agricultural waste and highly combustible forest residue that would otherwise burn or be left to rot spewing GHGs into the atmosphere is instead transformed into a carbon benefit. In addition to the vital climate benefits that negative emissions technologies like bio-oil sequestration provide, our approach delivers critically needed air quality, wildfire resilience, and economic benefits in parts of California that most need them like the Sierras and the Central Valley.

**Carbon Removal Must Play a Role in Achieving Carbon Neutrality**

The recent Sixth Assessment Report by the Intergovernmental Panel on Climate Change<sup>1</sup> underscores the urgent need for collective global action to rapidly cut GHGs. California has been a global leader in efforts to combat climate change for decades. CARB has spearheaded many of these efforts through the design and implementation of innovative policies and programs that have driven down greenhouse gas emissions, supported the development of new, cleaner technologies, and delivered a range of other economic and environmental benefits for Californians.

---

<sup>1</sup> See: [https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC\\_AR6\\_WGI\\_Full\\_Report.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf)

To meet state climate goals, including carbon neutrality by 2045, and continue its key role as a global climate leader, California must build on and accelerate actions to rapidly cut GHGs. These actions must include a clear and robust policy and regulatory framework that will support and take advantage of the significant benefits that innovative carbon removal technologies can deliver.

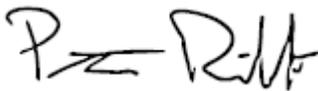
As detailed in the initial modeling results presented at the March 15 workshop, “all alternatives will need to rely on carbon dioxide removal (CDR) to achieve carbon neutrality.”<sup>2</sup> The analysis demonstrates a need for California to begin moving expeditiously to scale carbon removal technologies that can play a significant - and necessary - role in the achievement of California’s climate goals. To date, Charm has delivered the largest carbon dioxide removal in history, permanently removing more than five thousand tons of CO<sub>2</sub> from the atmosphere in our first year of operation. Scaling these technologies must be a key focus of California’s actions to drive down greenhouse gas emissions on the path to carbon neutrality.

### **Conclusion**

Charm is fully committed to helping California meet its climate goals. Our company was founded with the singular purpose of developing and bringing technology solutions to the collective effort needed to rapidly turn the tide against climate change. The 2022 Scoping Plan Update is a key opportunity for California to lay out an actionable plan to take full advantage of the role that carbon removal technologies can play. Given the urgency of this challenge, Charm urges CARB to consider all immediate actions that the state can take now to begin quickly and safely scaling up negative emission technologies.

We look forward to continuing to work with you.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Reinhardt". The signature is stylized and cursive.

Peter Reinhardt  
CEO

---

<sup>2</sup> See: <https://ww2.arb.ca.gov/sites/default/files/2022-03/SP22-Model-Results-E3-ppt.pdf>